Claims

WHAT IS CLAIMED IS:

1.   A computer-implemented method for modeling a configuration of components connected directly or indirectly to a baseboard of a computer system, the method comprising:

5   providing a graphical user interface through which a user selects one or more components included in the configuration; and

in response to user selection of the one or more components on the graphical user interface, creating a configuration file specifying identification information associated with each of the one or more components selected by the user, wherein the configuration file is operable for loading into a

10   management module communicatively connected to the baseboard, the management module being responsible for monitoring operation of each of the one or more selected components when implemented on the baseboard for use within the computer system.

2.   A computer-implemented method as defined in claim 1, further comprising:

15   defining a plurality of description files, each description file describing a component in a set of components which may be included in the configuration, wherein each description file specifies the identification information associated with the component to which the description file is associated.

20   3.   A computer-implemented method as defined in claim 2, wherein the creating act comprises:

copying the description file of each of the one or more selected components to the configuration file.

25   4.   A computer-implemented method as defined in claim 1, wherein the providing act comprises:

rendering on the graphical user interface a first portion comprising a plurality of graphical icons, wherein each of the plurality of graphical icons represent a component in a set of components which may be included in the configuration.

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5.   A computer-implemented method as defined in claim 4, wherein the providing act further comprises:

rendering on the graphical user interface a second portion for creating a model of the

5   configuration of the baseboard using the plurality of graphical icons included in the first portion.

6.   A computer-implemented method as defined in claim 5, further comprising:

receiving a command from the user through the graphical user interface selecting a first component, wherein the user enters the command by dragging a first graphical icon representing the

10   first component from the first portion into the second portion.

7.   A computer-implemented method as defined in claim 6, further comprising:

in response to the user dragging the first graphical icon onto the second portion, displaying on the second portion the first graphical icon.

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8.   A computer-implemented method as defined in claim 7, wherein the receiving act comprises:

receiving a command from the user through the graphical user interface requesting a connection of the first component to a particular contact pin of a second component, wherein a

20   second graphical icon representing the second component is already displayed on the second portion.

9.   A computer-implemented method as defined in claim 8, further comprising:

in response to the user dragging the first graphical icon onto the second portion and requesting connection of the first component to the particular contact pin of the second component,

25   analyzing the requested connection of the first component to the particular contact pin of the second component in order to determine whether the first component is a component which may be appropriately connected to the particular contact pin; and

displaying the first graphical icon as connected to the second graphical icon if the analyzing act determines that the connection of the second component to the particular contact pin is proper.

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10.   A computer-implemented method as defined in claim 9, further comprising:

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presenting an error message on the graphical user interface if the analyzing act determines that the first component is not a component specified for proper connection to the particular contact pin.

11.   A computer-implemented method for customizing a management module for use in monitoring operation of components included in a configuration specified for a baseboard of a computer system, the method comprising:

defining description files corresponding to a set of components which may be included in the

5   configuration, wherein each component of the set is associated with a description file;

providing a graphical user interface for modeling the configuration specified for the baseboard, wherein the user interacts with the graphical user interface to select one or more components included in the configuration;

in response to user selection of one or more components on the graphical user interface,

10   copying the device description file of each of the one or more selected components to a configuration file; and

incorporating the configuration file into the management module such that the management module is programmed to receive information from the one or more selected components.

15   12.   A computer-implemented method as defined in claim 11, wherein each device description file comprises information for configuring the management module to receive information from an associated component.

13.   A computer-implemented method as defined in claim 11, wherein at least one device

20   description file comprises information for configuring the management module to control an associated component based on the information received from the associated component, the incorporating act further comprising:

incorporating the configuration file into the management module such that the management module is programmed to control the associated component.

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14.   A computer-implemented method as defined in claim 11, wherein the set of components for which the description files are defined comprises all industry-known components which may be communicatively connected to the management module.

30   15.   A computer-implemented method as defined in claim 11, wherein the management module comprises a software module operable for implementation on the computer system.

16. A computer-implemented method as defined in claim 11, wherein the management module comprises a baseboard management controller (BMC) operable for being communicatively connected to the baseboard.

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17. A computer-implemented method as defined in claim 16, further comprising:

receiving a command from the user through the graphical user interface selecting a first component; and

receiving a command from the user through the graphical user interface requesting a

10   connection of the first component to a contact pin of the BMC.

18. A computer-implemented method as defined in claim 17, further comprising:

analyzing the requested connection of the first component to the contact pin of the BMC in order to determine whether the first component is a component which may be appropriately

15   connected to the contact pin.

19. A computer-implemented method as defined in claim 18, further comprising:

presenting an error message on the graphical user interface if the analyzing act determines that the first component is not a component which may be appropriately connected to the contact

20   pin.

20. A computer-implemented method as defined in claim 11, wherein the providing act comprises:

rendering on the graphical user interface a first portion comprising a plurality of graphical

25   icons, wherein each of the plurality of graphical icons represent a component in the set of components which may be included in the configuration.

21. A computer-implemented method as defined in claim 20, wherein the providing act further comprises:

30   rendering on the graphical user interface a second portion for creating a model of the configuration of the baseboard using the plurality of graphical icons included in the first portion.

22.   A computer-implemented method as defined in claim 21, further comprising:

receiving a command from the user through the graphical user interface selecting a first

component, wherein the user enters the command by dragging a first graphical icon representing the

5   first component from the first portion into the second portion.

23.   A computer-implemented method as defined in claim 22, further comprising:

in response to the user dragging the first graphical icon onto the second portion, displaying

on the second portion the first graphical icon.

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24.   A computer-implemented method as defined in claim 22, wherein the receiving act

comprises:

receiving a command from the user through the graphical user interface requesting a

connection of the first component to a particular contact pin of a second component, wherein a

15   second graphical icon representing the second component is already displayed on the second portion.

25.   A computer-implemented method as defined in claim 24, further comprising:

in response to the user dragging the first graphical icon onto the second portion and

requesting connection of the first component to the particular contact pin of the second component,

20   analyzing the requested connection of the first component to the particular contact pin of the second

component in order to determine whether the first component is a component which may be

appropriately connected to the particular contact pin; and

displaying the first graphical icon as connected to the second graphical icon if the analyzing

act determines that the connection of the second component to the particular contact pin is proper.

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26.   A computer-implemented method as defined in claim 25, further comprising:

presenting an error message on the graphical user interface if the analyzing act determines

that the first component is not a component specified for proper connection to the particular contact

pin.

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27.   A system for customizing a management module responsible for monitoring

operation of one or more components in a specific configuration specified for a baseboard of a

computer system, the system comprising:

a plurality of description files each describing a component in a set of components which

5   may be included in the configuration;

a graphical user interface through which a user selects one or more components from the set

of components for inclusion in a model being constructed based on the configuration; and

means for incorporating each device description file corresponding to the one or more

selected components into a configuration file operable for loading into the management module to

10   provide the management module with an ability to receive information from the one or more

selected components.

28.   A system as defined in claim 27, wherein the graphical user interface comprises:

a first portion comprising a plurality of graphical icons, wherein each of the plurality of

15   graphical icons represent a component in the set of components which may be included in the

configuration; and

a second portion for creating the model using the plurality of graphical icons included in the

first portion.

20   29.   A system as defined in claim 28, wherein the user selects the one or more components

for inclusion in the model by dragging a first graphical icon representing the first component from

the first portion into the second portion.

30.   A system as defined in claim 29, wherein the graphical user interface enables the user

25   to propose a connection between the first component and a second component by connecting the first

graphical icon to a contact pin on the second component already displayed on the second portion.

31.   A system as defined in claim 30, further comprising:

means for analyzing the proposed connection of the first component to the contact pin of the

30   second component in order to determine whether the first component is a component which may be

appropriately connected to the contact pin.

32.   A system as defined in claim 27, wherein at least one of the device description files comprises information for configuring the management module to control an associated component based on the information received from the associated component.

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33.   A system as defined in claim 27, wherein the management module is a baseboard management controller (BMC) operable for being communicatively connected to the baseboard.

34.   A system as defined in claim 33, wherein the set of components comprises a sensor

10   device.

35.   A system as defined in claim 34, wherein the sensor device is selected from the group consisting of a temperature sensor, a voltage sensor and a tachometer.

15   36.   A system as defined in claim 34, wherein the sensor device is a sensor aggregation component..

37.   A system as defined in claim 33, wherein the configuration file is incorporated into Intelligent Platform Management Interface (IPMI)-compliant firmware loaded into the BMC.

38.   A computer program product accessible to a computing system and encoding a computer program for executing a computer process for modeling a configuration of components connected directly or indirectly to a baseboard of a computer system, the computer process comprising:

5   providing a graphical user interface through which a user selects one or more components included in the configuration; and

in response to user selection of the one or more components on the graphical user interface, creating a configuration file specifying identification information associated with each of the one or more components selected by the user, wherein the configuration file is operable for loading into a

10   management module communicatively connected to the baseboard, the management module being responsible for monitoring operation of each of the one or more selected components when implemented on the baseboard for use within the computer system.

39.   A computer program product as defined in claim 38, the computer process further

15   comprising:

defining a plurality of description files, each description file describing a component in a set of components which may be included in the configuration, wherein each description file specifies the identification information associated with the component to which the description file is associated.

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40.   A computer program product as defined in claim 39, wherein the creating act comprises:

copying the description file of each of the one or more selected components to the configuration file.

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41.   A computer program product as defined in claim 38, wherein the providing act comprises:

rendering on the graphical user interface a first portion comprising a plurality of graphical icons, wherein each of the plurality of graphical icons represent a component in a set of components

30   which may be included in the configuration.

42. A computer program product as defined in claim 41, wherein the providing act further comprises:

    ·   rendering on the graphical user interface a second portion for creating a model of the configuration of the baseboard using the plurality of graphical icons included in the first portion.

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43. A computer program product as defined in claim 42, the computer process further comprising:

    receiving a command from the user through the graphical user interface selecting a first component, wherein the user enters the command by dragging a first graphical icon representing the

10   first component from the first portion into the second portion.

44. A computer program product as defined in claim 43, the computer process further comprising:

    in response to the user dragging the first graphical icon onto the second portion, displaying

15   on the second portion the first graphical icon.

45. A computer program product as defined in claim 44, wherein the receiving act comprises:

    receiving a command from the user through the graphical user interface requesting a

20   connection of the first component to a particular contact pin of a second component, wherein a second graphical icon representing the second component is already displayed on the second portion.

46. A computer program product as defined in claim 45, the computer process further comprising:

25   in response to the user dragging the first graphical icon onto the second portion and requesting connection of the first component to the particular contact pin of the second component, analyzing the requested connection of the first component to the particular contact pin of the second component in order to determine whether the first component is a component which may be appropriately connected to the particular contact pin; and

30   displaying the first graphical icon as connected to the second graphical icon if the analyzing act determines that the connection of the second component to the particular contact pin is proper.

47.   A computer program product as defined in claim 46, the computer process further comprising:

    presenting an error message on the graphical user interface if the analyzing act determines that the first component is not a component specified for proper connection to the particular contact pin.

48.   A computer program product as defined in claim 38, wherein the computer program product is a communications medium.

49. A computer readable medium having an extensible markup language (XML) data structure stored thereon for use in customizing a management module monitoring an occurrence of one or more events in a computer system, the data structure comprising:

a first tag specifying a type corresponding to a specific component for sensing information indicative of whether an event is occurring in the computer system; and

a second tag specifying a routine executable by the management module for enabling the management module to receive and analyze information sensed by the specific component to determine whether the event is occurring.

50. A computer readable medium as defined in claim 49, wherein the data structure further comprises:

a third tag specifying a name for the specific component.

51. A computer readable medium as defined in claim 49, wherein the type specified by the first tag defines that the specific component is a sensor that provides a specific type of information to the management module.

52. A computer readable medium as defined in claim 51, wherein the type specified by the first tag further defines the sensor as being a temperature sensor, wherein the specific type of information relates to a temperature reading.

53. A computer readable medium as defined in claim 51, wherein the type specified by the first tag further defines the sensor as being a voltage sensor, wherein the specific type of information relates to a voltage reading.

54. A computer readable medium as defined in claim 51, wherein the type specified by the first tag further defines the sensor as being a tachometer, wherein the specific type of information relates to a velocity reading.

55. A computer readable medium as defined in claim 49, wherein the computer readable medium is a communications medium.